

**Notice of Allowability****Application No.**

10/820,440

**Examiner**

KABIR A. TIMORY

**Applicant(s)**

GARDNER ET AL

**Art Unit**

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2010.
2. ☒ The allowed claim(s) is/are 9, 11, 12 and 52.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/Kabir A Timory/  
Examiner, Art Unit 2611

**DETAILED ACTION**

1. Acknowledgement is made of the amendment received on 10/29/2010.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephonic interview with Kenyon S. Jenckes (Reg. No. 41873) on August 04, 2010.

The claims in the application have been amended as follows:

In claims:

**(1) Replace claim 9 with:**

A method of transmitting signals using a plurality of transmit channels, the method comprising:

allocating data to be transmitted among the plurality of transmit channels, wherein at least one of the plurality of transmit channels transports a subset of said data that is not transmitted over another of said plurality of transmit channels; and

transmitting a modified preamble from each of the plurality of transmit channels, wherein the modified preamble is distinguishable at a receiver from a conventional 802.11a preamble and includes information in an out-of-band component unused in a conventional 802.11a preamble

wherein the plurality of transmit channels comprise a plurality of frequency channels; and,

wherein the out-of-band component comprises a frequency band at a junction of adjacent 20 MHz channels comprising a portion of each channel that is attenuated by conventional 802.11a communication devices.

**(2) Replace claim 11 with:**

In a communications system having a channel divided into a plurality of adjacent frequency bands separated by out-of-band frequency ranges, wherein data is transmitted within the bands of the plurality of adjacent frequency bands, a method of increasing data capacity of the channel comprising:

for data to be transmitted from a transmitter, allocating a first portion of the data among the plurality of adjacent frequency bands and allocating a second portion of the data to at least one out-of-band frequency range when the first portion is allocated to adjacent frequency bands, wherein the at least one out-of-band frequency range includes an out-of-band frequency range between the adjacent frequency bands that is attenuated by legacy devices operating in the communication system;

transmitting the first portion of the data within the plurality of adjacent frequency bands; and

transmitting the second portion of the data within the at least one out-of-band frequency range.

**(3) Replace claim 52 with:**

A method of transmitting an extended mode packet intended for extended 802.11 receivers in a wireless medium, the method comprising:

transmitting a modified preamble, the modified preamble comprising data transmitted on subcarriers considered out-of-band subcarriers and unused for data transmission by conventional 802.11a receivers, the modified preamble comprising a plurality of fields decodable by a conventional 802.11a receiver such that a conventional 802.11a receiver that receives the extended mode packet can detect the extended mode packet or defer processing for a time corresponding to a remainder of a length of the extended mode packet; and

transmitting a remainder of the extended mode packet,

wherein said transmitting the modified preamble comprises transmitting the modified preamble over a 40 MHz channel comprising two adjacent 20 MHz channels, and

wherein the out-of-band subcarriers comprises subcarriers at adjoining edge portions of the adjacent 20 MHz channels that are attenuated by conventional 802.11a devices.

***Allowable Subject Matter***

3. Claims 9, 11-12, and 52 are allowed.
4. The following is a statement of reasons for allowable subject matter:

The prior art of record, Perahia et al. does not teach or suggest transmitting a modified preamble from each of the plurality of transmit channels, wherein the modified preamble is distinguishable at a receiver from a conventional 802.11a preamble and includes information in an out-of-band component unused in a conventional 802.11a preamble wherein the plurality of transmit channels comprise a plurality of frequency channels; and, wherein the out-of-band component comprises a frequency band at the junction of adjacent 20 MHz channels comprising a portion of each channel that is attenuated by conventional 802.11a communication devices.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kabir A. Timory whose telephone number is 571-270-1674. The examiner can normally be reached on 6:30 AM - 3:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kabir A Timory/

Examiner, Art Unit 2611

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611